REMARKS

The present response is intended to be fully responsive to all points of objection and/or rejection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of the application is respectfully requested.

Applicants assert that the present invention is new, non-obvious and useful. Prompt consideration and allowance of the claims is respectfully requested.

Status of Claims

Claims 6-13 and 18-26 are pending in the application.

Claims 6-13 and 18-26 have been rejected.

Claims 8, 9, 13 and 22-26 have been canceled without prejudice or disclaimer. In making this cancellation without prejudice, Applicants reserve all rights in these claims to file divisional and/or continuation patent applications.

CLAIM REJECTIONS

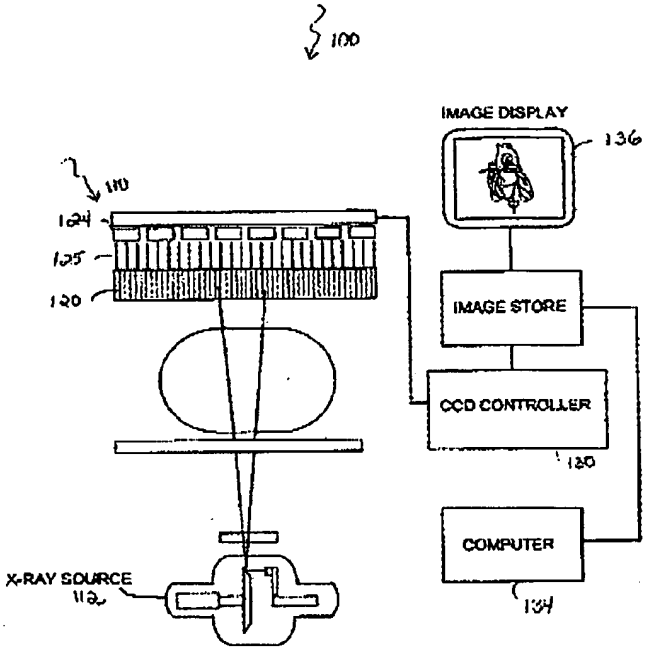
35 U.S.C. § 102 Rejections

In the Office Action, the Examiner rejected claim 19 under 35 U.S.C. § 102(e), as being anticipated by Karellas et al. (US 2003/0169847). Applicants respectfully traverse this rejection in view of the remarks that follow.

Karellas et al. discloses:

> In FIG. 3A a preferred embodiment of the invention for performing x-ray fluoroscopic imaging uses a detector 110 and a x-ray tube 112. The detector 110 comprises a scintillating plate 120 which is optically coupled to a two-dimensional charge-coupled device 124 (CCD). The CCD is a two dimensional array of detectors integrated into a single compact electronic chip. The optical coupling between the scintillating plate 120 and the CCD 124 is accomplished by

a fiberoptic coupler or plate 125. Such a plate 125 provides constrained propagation of light through the respective fiber channels thus minimizing and preferably eliminating undesired light spreading that can be deleterious to the spatial resolution of the imager. (Karellas, Paragraph [0103])



Karellas, Fig. 3A

Applicant respectfully traverses the Examiner's allegation in the Office action, that "Karellas discloses a device comprising ... a fiber plate cover ... configured to be contiguous with an outer wall surrounding the in vivo device". As clearly shown, *inter alia*, in Fig. 3A, the device disclosed by Karellas is not an in-vivo device. In fact, as can be seen, the patient is located on a table between the detector 110 and the x-ray tube 112. The detector 110 is clearly not inside the patient. Additionally, as can be seen in Fig. 3A, there is no outer wall surrounding the detector 110, and therefore the fiberoptic plate 125 is not contiguous to an outer wall. Moreover, in Karellas, the patient's body is not in contact with the fiberoptic plate, and therefore Karellas does not disclose that the fiber plate cover is "to transfer to said sensor elements an image of an object in contact with said fiber plate cover".

Additionally, Karellas discloses:

> a charge coupled device (CCD) is optically coupled to a scintillator and measures or counts the spatial intensity distribution of a radionuclide that has been introduced into bodily tissue, either in vivo or in vitro. CCD's of sufficient thickness can be used to measure gamma ray events without the use of a scintillator in certain applications. However, the use of a scintillator in conjunction with the CCD is required at high gamma-ray energies. The CCD has sufficient resolution and sensitivity to measure such distributions accurately. (Karellas, Paragraph |0012|, emphasis added)

That is, in Karellas, the component which is being introduced in-vivo is the radionuclide and not the device including the detector, while the detector is located outside of the body.

Therefore, Karellas does not teach or suggest, *inter alia*, "An autonomous in vivo device comprising: an imager; and a fiber plate cover disposed on sensor elements of said imager, said fiber plate cover to transfer to said sensor elements an image of an object in contact with said fiber plate cover while said in vivo device passes through a body lumen, said fiber plate cover configured to be contiguous with an outer wall surrounding said in vivo device", as recited in independent claim 19. Therefore, Karellas et al. cannot anticipate claim 19, and independent claim 19 is allowable. Accordingly, Applicants respectfully request that the Examiner withdraw the rejection under 35 U.S.C. § 102(e) over Karellas et al. to independent claim 19.

35 U.S.C. § 103 Rejections

In the Office Action, the Examiner rejected claims 6-13 and 18-26 under 35 U.S.C. § 103(a), as being unpatentable over Balch (US 2004/0023249) in view of Iddan et al. (US 5,604,531.

Applicants respectfully traverse the rejection of claims 6-13 and 18-26 under 35 U.S.C. § 103(a).

Claims 8, 9, 13 and 22-26 have been cancelled without prejudice, thus rendering the rejection of these claims moot.

Balch discloses:

> A method and apparatus for analyzing molecular structures within a sample substance using an array having a plurality of test sites upon which the sample substance is applied. The invention is also directed to a method and apparatus for constructing molecular arrays having a plurality of test sites. The invention allows for definitive high throughput analysis of multiple analytes in complex mixtures of sample substances. A combinatorial analysis process is described that results in the creation of an array of integrated chemical devices. These devices operate in parallel, each unit providing specific sets of data that, when taken as a whole, give a complete answer for a defined experiment. This approach is uniquely capable of rapidly providing a high density of information from limited amounts of sample in a cost-effective manner. (Abstract)
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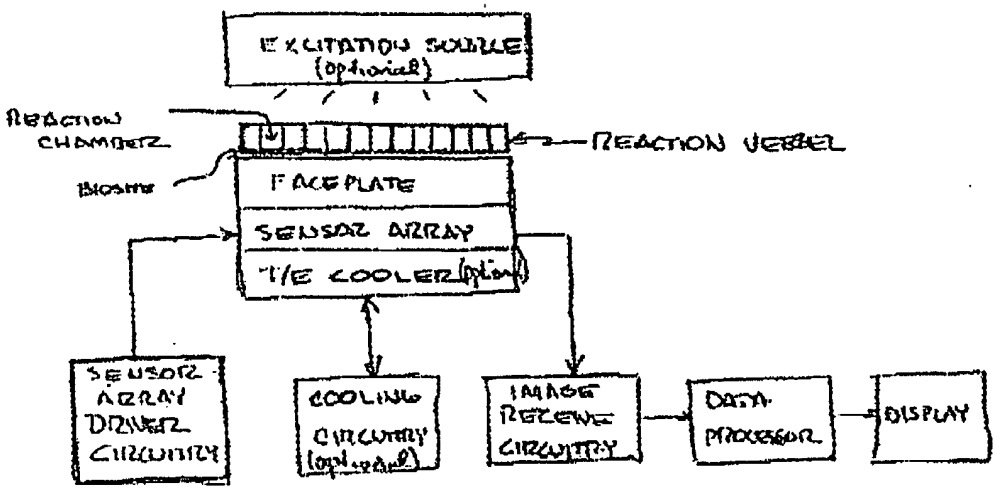
> ...FIG. 9 is a diagram showing a multiplexed molecular analysis system electronics schematic. As illustrated in FIG. 9, the reaction vessel is placed directly on the fiber optic faceplate which is bonded to the sensor array. The faceplate provides sensor isolation to accommodate routine cleaning, as well as affording thermal isolation for ultrasensitive detection under cooled sensor operation. Also the optical faceplate can serve to filter excitation radiation by employing selective coatings ... Finally, the data processor processes the quantitative imaging data to provide the required parameters for the molecular analysis outcome. (Balch, Paragraph [0242])



Balch, Fig. 9

Applicant respectfully traverses the Examiner's allegation in the Office action, referring to Fig. 9 and paragraph [0242] in Balch, that Balch discloses an imaging device comprising:

"- an imager including a plurality of sensor elements (sensor array);

- a fiber plate cover (face plate) disposed on sensor elements (sensor array) of the imager, the fiber plate cover to transfer to the sensor element an image of an object in contact with the fiber plate cover..."

Balch teaches that the object which is in direct contact with the fiber plate is the reaction plate. Balch does not disclose that the fiber plate transfers an image of the reaction plate to the sensor element. FIG. 9 of Balch shows a multiplexed molecular analysis system. A Multiplexed molecular analysis does not provide an image of an object but rather it provides images which provide information of target molecules in samples being imaged. These images cannot be interpreted as "an image of an object".

For example, Balch discloses:

> FIG. 19A is a printed computer image showing specific imaging of biotin-addressable biosites detected using streptavidin:HRP conjugate (4x4 single well microarray). In FIG. 19A, Image A was generated by incubating the small molecule 4x4 universal array with a streptavidin:HRP conjugate specific for biotin. As seen in this image, only biosites with addresses B1, C1, B4, and C4 known to contain biotin (refer to FIG. 18) are detected using proximal CCD imaging of chemiluminescent signals. Specific addressing of these biosites generates a "box" image pattern. (Balch, Paragraph [0260])

That is, Balch's invention relates to molecular analysis and the images obtained by Balch's apparatus are images received as a result of molecular activity of the molecules of a sample under inspection. These images are not images of an object, but rather "particle emissions or absorption from/by a sample (target molecules)" (Balch, paragraph [0237], emphasis added). The images are obtained from molecular activity of the molecules of samples located in the reaction chambers of the reaction vessel and the image obtained is a function of the molecular activity under investigation (as can be seen, e.g., by comparing Figs. 19A to 19D). The samples themselves are not in contact with the fiber plate, it is the reaction vessel that is in contact with the fiber plate. Consequently, not only does Balch not teach obtaining an image of an object in contact with the fiber plate, the samples from which the molecular activity images are obtained are not in contact with the fiber plate cover, but are located in the reaction chambers of the reaction vessel which is in contact with the fiber plate cover.

Moreover, Applicant respectfully traverses the Examiner's allegation in the Office action, that "one of ordinary skill in the art would have found it obvious to replace the imaging device disclosed by Iddan et al. with the imaging device taught by Balch, wherein the fiber optic cover is configured contiguous with an outer wall of the surrounding in vivo device in order to provide multiplexed molecular analysis in the in vivo system...".

One of ordinary skill in the art would not have found it obvious to replace the imaging device disclosed by Iddan et al. with the imaging device taught by Balch, let alone to even consider Balch. Replacing the imaging device disclosed by Iddan et al. with the imaging device taught by Balch, wherein the fiber optic cover is configured contiguous with an outer wall of the surrounding in vivo device, does not result in the claimed invention as claimed in

claim 19. Claim 19 requires the following: "said fiber plate cover to transfer to said sensor elements an image of an object in contact with said fiber plate cover while said in vivo device passes through a body lumen" [emphasis added].

In Balch's imaging device, the fiber optic faceplate covers the sensor array and a reaction vessel covers the fiber optic faceplate (see Fig. 9 in Balch). Hence, if, as suggested by the Examiner, the imaging device disclosed by Iddan et al. were to be replaced by the imaging device disclosed by Balch with the fiber optic cover contiguous with an outer wall of the surrounding in vivo device, the reaction vessel would protrude outwardly from the outer wall of the surrounding in vivo device. Objects in the body lumen could not possibly come into contact with the fiber plate cover, but only with the reaction vessel. Hence the requirement: "said fiber plate cover to transfer to said sensor elements an image of an object in contact with said fiber plate cover..." cannot be fulfilled by the Examiner's proposed modification of Iddan et al.

Therefore, neither Balch nor Iddan et al, alone or in combination, teach or suggest, *inter alia*, "An autonomous in vivo device comprising: an imager; and a fiber plate cover disposed on sensor elements of said imager, said fiber plate cover to transfer to said sensor elements an image of an object in contact with said fiber plate cover while said in vivo device passes through a body lumen, said fiber plate cover configured to be contiguous with an outer wall surrounding said in vivo device", as recited in independent claim 19. It would not have been obvious to include at least these elements of claim 19 in Balch nor in Iddan et al. Thus, neither Balch nor Iddan et al., alone or in combination, teach or suggest the invention of claims 19. Therefore, claim 19 is patentable over Balch in view of Iddan et al. and accordingly, independent claim 19 is allowable.

Claims 6, 7, 10-12, 18, 20 and 21 depend from, directly or indirectly, claim 19, and therefore include all the limitations of this claim. At least for this reason, claims 6, 7, 10-12, 18, 20 and 21 are likewise allowable. Accordingly, Applicants respectfully request that the Examiner withdraw the rejection under 35 U.S.C. § 103(a) over Balch in view of Iddan et al. to independent claim 19 and to claims 6, 7, 10-12, 18, 20 and 21 dependent thereon.

In view of the foregoing amendments and remarks, the pending claims are deemed to be allowable. Their favorable reconsideration and allowance is respectfully requested.

Should the Examiner have any question or comment as to the form, content or entry of this Amendment, the Examiner is requested to contact the undersigned at the telephone number below. Similarly, if there are any further issues yet to be resolved to advance the prosecution of this application to issue, the Examiner is requested to telephone the undersigned counsel.

Please charge any fees associated with this paper to deposit account No. 50-3355.

Respectfully submitted,

Guy Yonay
Attorney/Agent for Applicant(s)
Registration No. 52,388

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Pearl Cohen Zedek Latzer, LLP
1500 Broadway, 12th Floor
New York, New York 10036
Tel: (646) 878-0800
Fax: (646) 878-0801